Unit 22: Economics and Finance in Construction

Delivery guidance

This unit introduces learners to the financial planning, costing and feasibility of construction projects. Learners should be encouraged to research and learn how to identify the factors and risks that may lead to business failure or construction projects not being finished on time or within budget.

Approaching the unit

You should focus on the composition of the construction industry and ensure that learners are aware that it delivers its services through small, medium and large business organisations. These businesses operate locally, nationally and internationally and are affected by many external factors that learners will explore in this unit.

You should encourage learners to consider how customer preferences, political decisions and worldwide events – such as war and changes in government – can all influence the construction industry. Learners will need to reflect on how changes in interest rates, availability of materials, access to land and labour costs affect the supply of and demand for construction outputs and their subsequent pricing.

The learners will benefit from construction business/project case studies and financial models to show the impact of cost scenarios as well as online video resources.

You can involve local employers in the delivery of this unit by inviting them to engage as guest speakers and panel members for learner presentations or suppliers of case study materials and business materials as exemplars.

Delivering the learning aims

Learning aim A

Introduce the learning aim by asking learners to share their knowledge and experience of construction businesses. You could invite guest speakers from local and national businesses to present and discuss the structure, scale and areas of operation of their organisations. Working in small groups, learners could carry out research on businesses by visiting their websites.

You could then provide an initial presentation on market structures with a follow- up class discussion on how markets work. Use examples – such as how weather can affect supply, or how consumer demand affects price – to show learners the relationship between demand, supply and price. Case studies focusing on the local housing market can be used to explore current issues. This could include learners determining how changes in interest rates and availability of finance have impacted upon supply and demand.

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Learning aim B

You could begin with an overview detailing the key factors influencing the construction industry. Divide your learners into small groups to undertake research on specific areas such as economic resources, the internal environment or the external environment. Groups could then present their findings to the class, enabling them to share their knowledge with their peers. Questions should follow each presentation for learners to consolidate their understanding and consider how these factors can affect the construction sector.

Introduce learners to case studies to determine how different construction organisations have shaped their business decisions in response to economic resources, the internal environment or the external environment. Ask how this has impacted on consumer demand for their products.

Learning aim C

You could introduce learning aim C by asking learners to share their own knowledge and experiences of budgeting and planning their personal finances. Learners could then research the different costs that affect a business and report back to the class on the variety of costs that need to be taken into account when costing a construction project.

You could then provide examples to illustrate cost control and planning and the approaches used to manage costs within the construction industry. You could give learners a range of case studies to review the influence that cash flow has on business operations, asking them to identify how some businesses have improved their cash flow situation.

The use of a visiting speaker could help learners understand how a local construction business operates, especially in terms of predicting and managing costs on construction projects.

Learning aim D

For learning aim D, you could introduce the topic using case studies of different businesses. Using different business analysis methods, learners could work in groups to review and present on their allocated case study and methodology.

Learners would be interested to hear from guest speakers from local or regional businesses to present how economic changes have affected the feasibility of their construction projects. You could follow this up by learners creating spreadsheets or using online resources to model how changes in costs and other factors can affect the feasibility of construction projects.

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Assessment model

Learning aim	Key content areas	Recommended assessment approach
A Examine how economic principles underpin the construction industry	**A1** Structure and size of the construction industry **A2** Market structures, supply and demand **A3** Interaction of supply, demand and price	A report, presentation or booklet that examines the effects of economic principles, resources and environment on a sector of the construction industry and how it has/will react to economic changes
B Investigate the impact of economic factors on construction projects.	**B1** Economic resources **B2** Internal environment **B3** External environment	
C Explore how to plan and control construction costs	**C1** Cost control **C2** Cost planning **C3** Cost control techniques **C4** Budgeting **C5** Reconciliation of costs	A report that investigates the consideration of cost planning and control and the financial viability of a construction project
D Examine the factors determining the feasibility of construction projects	**D1** Business analysis methods **D2** Feasibility factors **D3** Modelling and testing of factors impacting on projects	

Assessment guidance

There is a maximum number of two summative assignments for this unit. One assignment will cover learning aim A and B while the second will cover learning aim C and D.

Assignments can include a vocationally relevant scenario and tasks allowing opportunities for learners to apply economic theories and principles to the construction sector.

All learners should independently undertake in-depth research to generate evidence for each assignment and ensure it is validated through inclusion of a fully referenced bibliography.

Getting Started

This provides you with a starting place for one way of delivering the unit, based around the recommended assessment approach in the specification.

Unit 22: Economics and Finance in Construction
Introduction Begin by introducing the unit to learners through a group discussion exploring what learners understand by economics and finance. Discussion could begin with inviting examples from learners of their personal approaches to budgeting and preferences for specific products and services to introduce economic terms and concepts. Give examples of high-profile businesses that have gone out of business in recent years to explore why this may have happened in terms of cost planning and management. Your learners could start to research and construct a glossary of economic terms and factors and share their definitions. Conclude with a group discussion on the four learning aims and the requirements for assessment.
Learning aim A – Examine how economic principles underpin the construction industry
You may use the following activities to give formative feedback to learners in preparation for the formal assignment. **Learning aim A1** Introduce the topic through a whole class discussion on the range of sectors and business sizes in operation in the construction industry. This will include learners understanding the legal status of businesses. You could engage learners with informal Questions and Answers (Q & A) task, matching scenario business models to the given categories. Devise a group research activity in which different groups are allocated a different sector in the construction industry to produce a poster on its composition, outputs and examples of organisations operating in that sector. The research can be undertaken online or through visits to local businesses. Learners could research different businesses to compare different structures, size and the geographical spread of their activities. **Learning aim A2** Following on from the previous activity, ask each group to identify two organisations from the construction sector: one which has done well over a longer period of time; and another which has significantly declined. These organisations could be local, national or global. Learners to carry out research for each of the organisation in terms of the competitive environment they were faced with and how they used or did not use to their advantage. Learners to produce research posters and present to their peers. **Learning aim A3** Lead a group discussion on how supply, demand, marketplace features and restrictions and pricing operate. You could use examples that learners can relate to such as clothing and holidays and sales promotions. Extend this discussion to review the characteristics of the construction industry and how it functions aligned to economic principles. Ask learners to consider, discuss and research key economic terms including supply, demand, pricing, competition and elasticity of demand. Learners will need to update their glossary of

terms.

Ask learners to work in small groups to produce a briefing sheet on the interaction of supply and demand on prices in the local housing market. Groups could then feedback their findings to class and key points consolidated for tutor-led discussion. In a tutor presentation, you could refer to online

resources that illustrate demand and supply curves before asking learners to work in pairs to assess the impact on these factors in response to changes in price.

Learning aim B – Investigate the impact of economic factors on construction projects

Lead a group discussion to introduce this learning aim by asking learners to consider the requirements for the development of a construction project. To present this visually, you could invite the class to contribute to a spider diagram, or task learners to work in small groups to create a poster highlighting key points.

Learning aim B1

Plan a group research activity using reliable statistics and data on population and economic trends. Groups will need to produce tables on market data and predict the impact on supply, demand and price.

Follow up this activity by asking learners to work in small groups and using local newspapers and employment agencies, determine the availability and cost of land and labour resources locally.

Learners could investigate the variety and cost of finance options available to construction firms, accessing information on financial resources such as local bank websites. Learners could then clearly present findings through the production of an information leaflet.

Ask small groups to review and present on enterprise and entrepreneurship to help learners understand how these shape supply, demand and price.

Learning aims B2 & B3

Visit construction businesses, or invite in guest speakers, so that learners can identify how organisations have adopted their business practices to react to changes in their internal (LA B2) and external (LA B3) environments.

In a tutor-led discussion, consider how the local construction industry has responded to pressures and challenges in the sector such as supply and demand challenges, the need for modernisation, increased competition and development of new construction techniques.

Through online research, learners could collate a number of examples of corporate social responsibility (CSR) and ethical policies from local, national and international construction businesses. A class discussion on the similarities and differences could follow.

(LA B3) In a tutor-led discussion to support assessment, review the political, technological and

legal changes that impact on businesses and sectors within the construction industry. Learners should then work in groups to analyse and present on a range of case studies where businesses have failed or have succeeded because of changes in the external environment.

Encourage learners to update their table/glossary of economic terms and factors and use their research to inform their assignments. You could conclude the session with an extended opportunity for a Question and Answer activity.

Learning aim C – Explore how to plan and control construction costs

Learning aims C1 & C2

You could begin by asking learners how they personally plan and control their finances, manage their cash flow and budget for special purchases and then extend this activity to consider why and how construction businesses need to plan and control their costs.

Ask learners to research sources of costs to price construction projects.

Learning aim C3

Introduce cost control techniques used by construction firms including templates and examples available online.

Lead a group review to identify how businesses use cost control techniques to monitor and control costs over the lifetime of a project. You could provide a project brief for learners to investigate. The first group should propose two relevant sources of cost data and two suitable cost control techniques that they have identified, with each subsequent group then proposing aspects that other groups have not yet suggested, ultimately building up a complete knowledge base.

You could access construction contract documents and arrange learners in small groups to decide how these are used by construction businesses to control costs.

Learning aims C4 & C5

Using tutor-provided construction examples, learners will work in pairs to prepare the budget for a range of construction projects, including consideration of profit, loss, costs and variables.

Building on this activity, learners should then review the impact of time delays on costs and income.

Invite a guest speaker or visit a construction project so that learners can determine why businesses need to control costs in construction projects, the different methods used by this business to plan and control costs and how costs are reconciled over the duration of a project.

Encourage learners to update their table/glossary on economic terms used to plan and control costs.

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Learning aim D – Examine the factors determining the feasibility of construction projects

Learning aim D1

Introduce learners to the range of different methods available to check the feasibility of projects.

Ask learners to work in small groups and to then select and research one of the following business analysis methods (political, economic, social, technological, environmental, legal (PESTLE), strengths, weaknesses, opportunities, threats (SWOT), customer, company, competition, collaborators, context (5 Cs) and Porter's 5 forces), cost benefit analysis and residual method of valuation) and present their findings to the other groups. One group member should then join another group and work to produce a table on the similarities and differences between their two different methods. Once completed, a member from the original group should then join another group and carry out the same activity until there are comparison tables for all the methods. This allows learners to share their learning with peers through explanation of their research.

Learning aim D2

Using a simple construction project case study, support learners to develop worked calculations or spreadsheets from construction cost data (land, labour, materials) and estimated income from the sale or rent of the project to reach conclusions on whether the project is feasible.

Work through a range of 'what - if' situations with your learners to determine which factors (e.g. planning, legal and environmental requirements – take guidance from the unit content) have the biggest impact on the feasibility of the project to model and test how changes in the factors affect feasibility.

Learning aim D3

Learners can then work in small groups on a given case study using a business analysis method and present their results to the other groups. Following on from this task, learners should apply their business analysis findings to their previously worked calculations. The aim is to determine the impact on its feasibility working through a further range of 'what - if' situations. The template for assessment could include a section where learners review the impact of different decisions.

For assessment purposes, conclude with a tutor led review of the consequences of change on project feasibility.

Learners to carry out research on software packages which could be used to model a wide range of what-if situations and share their findings with the class.

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Details of links to other BTEC units and qualifications, and to other relevant units/qualifications

This unit links to:

- Unit 2: Construction Design
- Unit 5: Management of Commercial Risk
- Unit 11: Management of a Construction Project
- Unit 20: Quantity Surveying

Resources

In addition to the resources listed below, publishers are likely to produce Pearson-endorsed textbooks that support this unit of the BTEC Internationals in Construction and the Built Environment. Check the Pearson website (http://qualifications.pearson.com/endorsed-resources) for more information as titles achieve endorsement.

Textbooks

Cartlidge D, *Construction Project Manager's Pocket Book,* Routledge, 2015 ISBN 9780415732390 – this book details the skills and knowledge involved in construction project management.

Cooke B and Williams P, *Construction Planning, Programming and Control* (Third Edition), Wiley-Blackwell, 2009 ISBN 9781405183802 – this book covers the principles and practice of construction planning, programming and control during the preparation and construction stages of a project. The control of time, money and resources are considered in a risk management context.

Myers D, *Construction Economics: A New Approach* (Fourth Edition), Routledge, 2016 ISBN 9781138183728 – this book gives learners the principles and concepts underlying the relationship between economic theory and the construction industry.

Videos

TED offers short online talks covering an extensive range of areas including business and economic issues.

Websites

Visit the BBC Bitesize website. This site has learner guides and clips on a range of business and business management topics.

Visit the Business Balls website. This site has business dictionaries, templates for undertaking SWOT and other business analysis approaches.

Go to the Construction Leadership Council website and search for "Farmer review of construction sector labour model"– a recent report extolling the need for modernisation in the construction industry in the UK and the economic problems it faces.

Visit the Bank of England's Knowledge Bank page –this is the site for the Bank of England, which includes educational resources.

Pearson is not responsible for the content of any external internet sites. It is essential for tutors to preview each website before using it in class so as to ensure that the URL is still accurate, relevant and appropriate. We suggest that tutors bookmark useful websites and consider enabling learners to access them through the school/college intranet.